

ABSTRACT

A METHOD OF PRODUCTION OF ASTAXANTHIN BY FERMENTATION OF SELECTED STRAINS OF *XANTHOPHYLLOMYCES DENDRORHOUS*.

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The present invention describes methods for (i) obtaining astaxanthin-overproducing strains of *X. dendrorhous* and (ii) the use of the aforementioned strains in improved conditions of fermentation. The methods used for selecting the strains are based on: (i) resistance to inhibitors of steroid synthesis, to inhibitors of respiration and to compounds that induce the formation of free radicals, (ii) color intensity of the colony and production of carotenoids on solid medium, (iii) production of astaxanthin in darkness, (iv) production of astaxanthin in conditions with a raised temperature and (v) production of astaxanthin with carbon sources other than glucose. These methods permit the efficient selection of mutants of *X. dendrorhous* with astaxanthin yields higher than the parent strain and little accumulation of other carotenoids. Cultivation of *X. dendrorhous* in liquid medium makes it possible to obtain a biomass that can be used directly in human and animal nutrition.

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